

ABSTRACT

Methanol is synthesized from pre-heated methanol synthesis gas in one or more adiabatic synthesis stages with cooling of the resultant gas after each stage. Further methanol synthesis is then effected on the resultant partially reacted synthesis gas in a bed of synthesis catalyst cooled by means of a coolant flowing co-currently through tubes disposed in the catalyst bed. After cooling methanol is separated from the unreacted gas. Part of the unreacted gas is combined with make-up gas and used as the coolant fed to the aforesaid tubes, thus producing the pre-heated synthesis gas to be fed to the adiabatic synthesis stages.